REMARKS

Claims 1-11 and 13-50 are pending in this application, claims 3-5, 7-11, 14-37 and 44-50 having been withdrawn from consideration. By this Amendment, claims 1 and 13 are amended. Support for the amendments to claims 1 and 13 can be found, for example, in the claims as filed. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Entry of this Amendment is proper under 37 C.F.R. §1.116 because the Amendment places the application in condition for allowance (for the reasons discussed herein) or places the application into better form for Appeal should an Appeal be necessary. The Amendment does not present any additional claims without canceling a corresponding number of finally rejected claims, does not raise the issue of new matter, and does not raise any new issues requiring additional search and/or consideration since the Amendment is directed to subject matter previously considered during prosecution. Furthermore, the amendments are necessary and were not earlier presented because they are in response to issues raised in the Final Rejection. Applicant respectfully requests entry of the Amendment.

I. Claim For Priority

The Office Action acknowledges Applicant's claim for foreign priority, but indicates that the certified copy has not been received. In response, Applicant submits that a certified copy of the foreign priority application was field on July 7, 2004, along with a Claim for Priority. The Claim for Priority appears in the Image File Wrapper as dated July 7, 2004. Furthermore, Applicant notes that the Image File Wrapper also contains an entry for July 7, 2004, entitled "Artifact sheet indicating an item has been filed which cannot be scanned." That Artifact sheet appears to indicate that the certified copy of the priority application has been placed in an artifact file. Applicant respectfully requests that the Examiner obtain and

review the artifact file, and confirm receipt of the certified copy of the priority application in the next communication.

II. Claim Objection

Claim 13 is objected to as depending from canceled claim 12. By this Amendment, claim 13 is amended to correct its dependency. Reconsideration and withdrawal of the objection are respectfully requested.

III. Rejections Under §103

A. Lyu, Winker, and Kajiyama

The Office Action rejects claims 1 and 13 under 35 U.S.C. §103(a) over U.S. Patent No. 6,646,701 to Lyu et al. ("Lyu") in view of U.S. Patent No. 5,504,603 to Winker et al. ("Winker") and U.S. Patent No. 5,403,510 to Kajiyama et al. ("Kajiyama"). Applicant respectfully traverses the rejection.

Claim 1 is directed to a laminated retardation optical element comprising: an A plate-type retardation layer that acts as an A plate; and a C plate-type retardation layer that is optically bonded to a surface of the A plate-type retardation layer and acts as a negative C plate; wherein the A plate-type retardation layer comprises a cross-linked nematic liquid crystal, and the C plate-type retardation layer comprises a cross-linked chiral nematic liquid crystal and a difference between a mean refractive index of the A plate-type retardation layer and a mean refractive index of the C plate-type retardation layer is 0.05 or less. Claim 13 depends from claim 1. Such a laminated retardation optical element is not taught or suggested by the cited references.

According to the claimed invention, at least three features are provided that in combination are not taught or suggested by the references, namely:

A) a C plate-type retardation layer is optically bonded to a surface of the A plate-type retardation layer and acts as a negative C plate;

B) the A plate-type retardation layer comprises a cross-linked nematic liquid crystal, and the C plate-type retardation layer comprises a cross-linked chiral nematic liquid crystal; and

C) a difference between mean refractive indices of each of the A plate-type retardation layer and C plate-type retardation layer is 0.05 or less.

These features of the claimed invention also provide advantageous effects that are not taught or suggested by the cited references. In particular, for example, even when the laminated retardation optical element is incorporated in a liquid crystal display, the laminated retardation optical element can effectively prevent lowering of contrast that is caused by interfacial reflection in the optical element. See, for example, specification at page 18, lines 7-12.

The Office Action asserts that Lyu discloses a liquid crystal display device including an A-plate compensation film and a C-plate compensation film. The Office Action further asserts that, when the liquid crystal display device of Lyu is assembled, the A-plate and the C-plate would be laminated together to form a laminated retardation optical element in which the C-plate is optically bonded to the A-plate. In addition, the Office Action asserts that the mean refractive indices between the layers would be small. Notwithstanding these assertions, Lyu would not have rendered obvious the optical element of claim 1.

Claim 1 requires a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. That is, claim 1 requires that the A plate and C plate layers are optically bonded together directly, i.e., without any intervening layer such as an air layer (refractive index = 1.000) or any bonding layer, between them, and further that the layers comprise a cross-linked nematic liquid crystal. As a result of these features, it is possible to make the

difference between the mean refractive indices of the two layers very small, such as 0.05 or less.

For example, when an air layer is interposed between the A and C plate retardation layers, the difference between the mean refractive indices of the two layers becomes very large. This in turn causes a large reflection on the boundary surface because the air layer has a small refractive index of 1.000. Even when a bonding layer is interposed between the A and C plate retardation layers, it is not easy to establish compatibility between large refractive indices and specific characteristics of the bonding layer such as high bonding strength or high transparency. It is also very difficult to make lowering of contrast that is caused by interfacial reflection that occurs in the laminated retardation optical element.

While the Office Action correctly points out that Lyu discloses a device including an a-plate compensation film 21 and a c-plate compensation film 31 (*see, e.g.,* column 7, line 66 to column 8, line 8; FIG. 13), there is no teaching or suggestion in Lyu that the layers 21, 31: (a) are optically bonded, or (b) have a difference in mean refractive indices of 0.05 or less. The Office Action makes the bald assertion that upon assembly the a-plate compensation film 12 and a c-plate compensation film 31 of Lyu would be optically bonded. *See* paragraph 5, page 4. This is mere conjecture and is unsupported by the disclosure of the reference.

The respective a-plate compensation film 20,21 and a c-plate compensation film 30,31 in Lyu are shown in Figs. 11A-11D, 12D, and 14, and described at col. 6, lines 52-60; col. 7, lines 38-45; and col. 8, lines 4-7. In those disclosures, the a-plate compensation film 20,21 and c-plate compensation film 30,31 are variously described as "attached in sequence," "inserted between," or "disposed between" other layers. Further, a gap is shown as being present between the a-plate compensation film 20,21 and c-plate compensation film 30,31. These disclosures specifically depict, or at the very least strongly suggest, that a gap, such as an air gap or perhaps a bonding layer, is present between the a-plate and c-plate films. The

disclosures do not teach or suggest that no such air gap or bonding layer is present between the films, as required in the claimed invention.

Accordingly, Lyu entirely fails to teach or suggest a C plate-type retardation layer that is optically bonded directly to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. Lyu nowhere teaches or suggests any means for lowering contrast that is caused by interfacial reflection that occurs in the laminated retardation optical element, much less the claimed structure for addressing the contrast problem.

The Office Action does not assert that any of the references specifically discloses that an A plate-type retardation layer is optically bonded directly to a C plate-type retardation layer, as claimed. Rather, the Office Action asserts that this arrangement will simply occur when a device is assembled. There is no support in the Office Action for this assertion. The Office Action then asserts (in discussing the Su Yu reference cited below) that it would have been obvious to form an A plate-type retardation layer and a C plate-type retardation layer of the same material (without identifying how one of ordinary skill in the art would know or be motivated to select A and C plate layers made of the same material or expect success from such a configuration), and that having so selected the layers the recited difference in mean refractive indices would inherently result. Again, the Office Action fails to identify support in the prior art or the general knowledge of skilled artisans for any of the several steps in reasoning required to come to the conclusion that the recited differences in mean refractive indices would have been obvious.

Lyu, discussed above, does not teach these claimed features. Rather, Lyu teaches or suggest an air gap or bonding layer between the a-plate and c-plate films. Winker and Kajiyama do not overcome these deficiencies, and in fact reinforce the contrary disclosure of Lyu.

The Office Action cites Winker for its alleged teaching of using a negative C-plate to increase contrast ratio at large fields of view. The Office Action cites Kajiyama for its alleged teaching of using cross-linked liquid crystal as a material for an A-plate and a C-plate. However, Winker and Kajiyama, like Lyu, fail to teach or suggest a C plate-type retardation layer that is optically bonded to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less.

In fact, Winker discloses an O-plate interposed between and A plate-type retardation layer and C plate-type retardation layer. Kajiyama does not disclose any specific structure including A plate-type retardation layer and C plate-type retardation layers. Accordingly, any combination of Lyu, Winker, and Kajiyama would specifically include a layer between Lyu's a-plate and c-plate films, whether that intervening layer is an air gap or a bonding layer (as in Lyu) or an O-plate (as in Winker).

None of the reference teach or suggest directly optically bonding the A plate-type retardation layer and C plate-type retardation layer, as claimed. Nor do any of the cited references teach or suggest any means for lowering contrast that is caused by interfacial reflection that occurs in the laminated retardation optical element, much less the claimed structure for addressing the contrast problem.

As none of the cited references teaches or suggests a C plate-type retardation layer that is optically bonded directly to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less, the combination of references fails to teach or suggest each and every element of claim 1.

Claims 1 and 13 would not have been rendered obvious by Lyu, Winker and Kajiyama. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Lyu, Winker, Kajiyama, and Parri

The Office Action rejects claims 2, 38-40 and 43 under 35 U.S.C. §103(a) over Lyu in view of Winker, Kajiyama and U.S. Patent Application Publication No. 2004/0095532 to Parri et al. ("Parri"). Applicant respectfully traverses the rejection.

Independent claim 1, and the references Lyu, Winker, and Kajiyama were discussed above. Claims 2, 38-40 and 43 ultimately depend from claim 1. For the foregoing reasons, Lyu, Winker and Kajiyama do not teach or suggest the optical element of claim 1.

Parri does not remedy the deficiencies of Lyu, Winker and Kajiyama. The Office Action cites Parri for its alleged teaching of using an A-plate as a quarter wave film. However, Parri, like Lyu, Winker and Kajiyama, fails to teach or suggest a C plate-type retardation layer that is optically bonded directly to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. As none of the cited references teaches or suggests a C plate-type retardation layer that is optically bonded directly to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less, the combination of references fails to teach or suggest each and every element of claim 1.

Claim 1 would not have been rendered obvious by Lyu, Winker, Kajiyama and Parri. Claims 2, 38-40 and 43 depend from claim 1 and, thus, also would not have been rendered obvious by the cited references. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

C. Lyu, Winker, Kajiyama, and Su Yu

The Office Action rejects claim 6 under 35 U.S.C. §103(a) over Lyu in view of Winker, Kajiyama and U.S. Patent Application Publication No. 2004/0051831 to Su Yu et al. ("Su Yu"). Applicant respectfully traverses the rejection.

Independent claim 1, and the references Lyu, Winker, and Kajiyama were discussed above. Claim 6 depends from claim 1. For the foregoing reasons, Lyu, Winker and Kajiyama do not teach or suggest the optical element of claim 1.

Su Yu does not remedy the deficiencies of Lyu, Winker and Kajiyama. The Office Action cites Su Yu for its alleged teaching of thicknesses of a negative retardation film. However, Su Yu, like Lyu, Winker and Kajiyama, fails to teach or suggest a C plate-type retardation layer that is optically bonded directly to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. As none of the cited references teaches or suggests a C plate-type retardation layer that is optically bonded directly to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less, the combination of references fails to teach or suggest each and every element of claim 1.

Claim 1 would not have been rendered obvious by Lyu, Winker, Kajiyama and Su Yu. Claim 6 depends from claim 1 and, thus, also would not have been rendered obvious by the cited references. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

D. Lyu, Winker, Kajiyama, and Hara

The Office Action rejects claims 41 and 42 under 35 U.S.C. §103(a) over Lyu in view of Winker, Kajiyama, Parri and U.S. Patent Application Publication No. 2005/0151896 to Hara et al. ("Hara"). Applicant respectfully traverses the rejection.

Independent claim 1, and the references Lyu, Winker, Kajiyama, and Parri were discussed above. Claims 41 and 42 depend from claim 1. For the foregoing reasons, Lyu, Winker, Kajiyama, and Parri do not teach or suggest the optical element of claim 1.

Hara does not remedy the deficiencies of Lyu, Winker, Kajiyama and Parri. The Office Action cites Hara for its alleged teaching of thicknesses of a negative retardation film.

However, Hara, like Lyu, Winker, Kajiyama and Parri, fails to teach or suggest a C plate-type retardation layer that is optically bonded directly to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less. As none of the cited references teaches or suggests a C plate-type retardation layer that is optically bonded directly to a surface of an A plate-type retardation layer, such that a difference in mean refractive indices of the layers is 0.05 or less, the combination of references fails to teach or suggest each and every element of claim 1.

Claim 1 would not have been rendered obvious by Lyu, Winker, Kajiyama, Parri and Hara. Claims 41 and 42 depend from claim 1 and, thus, also would not have been rendered obvious by the cited references. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-11 and 13-50 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

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